Once a Ditch Digger, Now Flirts With Mars

Dr. Millener (standing) listening in for messages from Mars.

IN 1907, the year marked by what is known in history as a "financial stringency," a stranger applied to the foreman of a Union Pacific ditch digging gang at Omaha for a job. The stranger was put to work. It wasn't customary to ask many questions of applicants for such places when there were vacancies.

Some time later there was an accident and one of the stranger's fellow workmen suffered a broken leg. The company surgeon was called. When he arrived he found the workman, an Italian, lying on the grass, the fracture already reduced. The doctor inquired who had given the treatment and was told one of the workmen had given the Italian a "first aid." But the surgeon knew a man skilled in such matters had put the leg in splints after setting the bone. He sent for the workman, who admitted having some knowledge of medicine and surgery. A more confidential conversation followed and in a short time the ditch worker was given an assistantship in the roundhouse yards.

This is the story told in Omaha today. It doesn't stop there. According to the Omaha version, one of the yard foremen was startled, some time later, when he saw a truck that was used in the yards moving rapidly down the cinder track with no visible means of propulsion. The foreman rubbed his eyes, looked again, and began an investigation. It developed that the truck was operated by wireless as the result of the experiments of the former ditch digger who had attended the injured Italian.

Reports of the incident led the higher officials of the railroad system to back the experimenter in a series of other tasks. What these experiments were and what they developed remain largely a secret of the man who made them and the corporation that employed him.

A few weeks ago the man who had applied for the ditch digging job returned to Omaha. The interest of the civilized world followed him. The man was Dr. Frederick H. Millener. His mission was to learn whether Mars or some other planet was attempting to signal the earth with radio.

Concluding his Union Pacific experiments several years ago, Dr. Millener entered the army where his discoveries in radio experiments and others were used in the national coast defense scheme. Leaving the army later, he had returned to his first profession—that of medicine.

When Dr. Millener read that European scientists believed Mars might be trying to signal the earth, explaining in that way the unusual electrical disturbances, he didn't join in the debate that prevailed for weeks. Personally he believed there was no life on Mars. But as to the matter of communication having been attempted by radio, Dr. Millener was more than open-minded; he was determined to learn whether a wireless signal was causing the disturbances.

While the matter of communication with Mars was being debated the wireless wizard was completing arrangements to test the most extensive wireless plant the world ever had known. There were miles of wire antennae at the station constructed at Cedar Creek, near Omaha, and the equipment was such that the instrument had to be "toned down" greatly to pick up the most powerful earthly sending stations. The most pretentious instruments sobbed out as the switch which put earth in position to receive flashes from the planets was thrown open.

Storms interfered the first few nights of the listening for Mars. But Doctor Millener and Mr. H. L. Gamer, associated with him in the project, didn't quit their posts until after break of day. Despite storms it would have been possible to receive radio signals from the planets, Doctor Millener said. Then Gamer and Millener agreed to alternate on the watch for the signal some scientists believe may be sent from the astral bodies. The watch was kept almost a month before the station was dismantled and the project given up.

Electrical experts say that with the great radio plant all set to receive signals from any terrestrial body that might be calling there was a splendid opportunity for faking that probably never would have been discovered. They say that with a small electric buzzer secreted about the experiment station Doctor Millener could have announced that signals had been received and the chances for exposure would have been remote. The matter was mentioned to the experimenting scientist.

"One Doctor Cook is enough for the nation," was his reply.

In the meantime, if Mars or any other planet can give evidence of endeavoring to communicate with earth by wireless, a system which will pick up the slightest whisper from the most remote corners of the universe has been built and tested. It can be put into operation quickly once there is an indication a message from other worlds awaits. And a large number of scientists have been convinced the recent static disturbances were not efforts of others to communicate with us.

Dr. Millener's experiments for the Union Pacific included testing the practicability of wireless telegraph and telephone for the operation of trains. Communication between stations was established, as was communication between the stations and a moving train. Some stations were built in anticipation of the development of the discoveries.

The full results of the experiments never have been revealed, but the foundation was laid for a full and intimate utilization of the new means of communication by the railroad at some future date. While the attempts to work out the wireless telegraph system were being made, Doctor Millener also was working on the wireless telephone so that when the wireless telegraph might be ready to install the wireless telephone would be ready to accompany the system; in fact, be a part of it.

In connection with its experiments in communication the Union Pacific also sought means of preventing accidents. So Doctor Millener, as an insurance against wrecks, contrived an electric cab signal to work in connection with the block signal system used by the railroad. The cab signal, controlled by wireless, showed the movement of the signals at each end of the block in which the train was running. The cab signal was an accidental discovery of the investigator. It, also, was laid away for future development. In his experiments at that time Doctor Millener used an old switch engine equipped with antennae suspended from insulated posts on the roof of the cab. The doctor sat in his laboratory while an assistant rode the engine and conversed with the chief by wireless telegraph and telephone. Finding the antennae on the cab easily susceptible to damage, Millener did away with them, insulating the metal roof of the cab and running wires from it to each of the devices. The "ground" was made through the wheels.

Great secrecy attended the Union Pacific experiments. The machines used were assembled only by Dr. Millener. Seldom, if ever, were two parts of a machine made at the same shop. Seldom did one workman handle more than one part of any machine. Most of the supplies were purchased in different countries in Europe, some Dr. Millener made.

There was the wireless truck, built following the experiments with the roundhouse truck. A test proved it successful. As a result there are many switch engines Dr. Millener believes some day will go to the scrap while electric, wireless operated machines will switch and "spot" freight cars. Copper wires used for trolleys also are to disappear when the street cars are operated by wireless, as Dr. Millener is convinced they will be. He also believes streets will be lighted by wireless.

Experiments interrupted by the war and renewed in the light of the discoveries growing out of the conflict are expected to lead to a realization of these improvements and others, perhaps still more far-reaching than those listed.

Famous Sayings of American Presidents

A GOOD many of our Presidents have coined expressions that live after them, from Washington's famous dictum about foreign alliances to Wilson's "Too proud to fight" and "Peace without victory."

But two expressions of our first President are much quoted and these are taken from a speech he made to Congress in 1790, and from his farewell address. The first is: "In time of peace prepare for war"; the other: "'Tis our true policy to steer clear of permanent alliances with any portion of the foreign world."

The best remembered saying of John Adams is his famous toast, "Independence forever," for the very Fourth of July on which he died. His son, John Quincy, is chiefly associated, as far as sentence-making is concerned, with "Westward the star of empire takes its way," occurring in his oration at Plymouth, 1802. This was not, however, original with him for he took it with slight alteration from old Bishop Berkeley who had used the phrase in a poem sixty years before.

"Few die and none resign" heads Jefferson's list of deathless phrases, although a close second is: "When a man assumes a public trust, he should consider himself as public property." This latter, perhaps, suggested Cleveland's even more famous: "Public office is a public trust."

That great Democrat, Andrew Jackson, is remembered more by what is colloquially termed a "cuss word" than by any high-flown expression. History tells us that he was constantly interlarding his speech with, "By the eternal," but he also said, "Our Federal Union; it must be preserved"—a toast given by "Old Hickory" on the occasion of the Jefferson Birthday Celebration, in 1830.

So much is constantly quoted from the great speeches of Abraham Lincoln that one knows not where to begin. Take that wise and pithy epigram, "No country can survive that is half slave and half free"; and that priceless bit of philosophy expressed in his remarkable Gettysburg Speech: "That this nation, under God, shall have a new birth of freedom and that government of the people, by the people, for the people, shall not perish from the earth." This never fails to move an audience just as the homely wisdom of "It's not best to swap horses while crossing the stream" always brings a smile and makes a point. This was said regarding the change of generals during the Civil War, but it has been used again and again by supporters of any officeholder who wants to retain his job.

"Let us have peace," incorporated in Grant's letter accepting the Republican nomination of 1868, is the most often quoted of the few political sayings connected with the hero of Appomattox. Grant also is famous for his dispatch from Spottsylvania Courthouse, "I propose to fight it out on this line if it takes all summer"; while Rutherford B. Hayes, in his inaugural address, gave to the world the inspiring thought: "He serves his party best who serves his country best."

Grover Cleveland coined a good many well-known expressions. His tariff message of 1886, criticising certain inactive laws, employed that unique term "innocuous desuetude." "Honor lies in honest toil" appeared in his letter accepting the first nomination, and the second important tariff message, in 1887, declared, "It is a condition which confronts us, not a theory."

President Roosevelt's contributions have been many and forceful. The strenuous life" was originally used by him in a speech at Chicago, more than twenty years ago, as the antithesis of "ignoble ease." Afterward it became the title of a collection of some of his essays and addresses. The cartoonist is animated almost daily by "Speak softly but carry a big stick," that celebrated saying of Roosevelt anent the Monroe Doctrine. A Fourth of July oration of more than a dozen years ago contained: "A man who is good enough to shed his blood for his country is good enough to be given a square deal afterward"; while the workingman with glee preserves against the corporations and wicked rich those volcanic eruptions, "Malefactors of great wealth," and "Ananias Club."

No one will be likely to forget the announcement of the Roosevelt presidential aspirations back in 1912, by the electrical "My hat is in the ring," nor the "pussyfooting" characterization of Democratic tendencies during the Hughes-Wilson campaign.

But one of the expressions often quoted was originated not by a President at all but by a presidential aspirant. It was that great Southern statesman, Henry Clay, who in 1850 delivered a speech against the compromise measures, and said: "I would rather be right than be President."